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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Geoffrey H. Jenkins

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EXAMINER

MCKANE, ELIZABETH L

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,475

Applicant(s)

JENKINS ET AL.

Examiner

Leigh McKane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 11, 12, 18, 23-27 and 48-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11, 12, 18, 23-27 and 48-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Matschke (US 5,498,394).

With respect to claim 1, Matschke teaches a sterilizer/disinfector for sterilizing or disinfecting an object, comprising: a housing (See Figure 1', germicidal cleansing and drying apparatus formed by upper member 11 and lower member 12, which, together with the diffuser 17 mounted in second chamber 2, define working chamber 10); a light source disposed within the housing (See Figure 1; ultraviolet light source 14; See col. 5, line 59 to col. 6, line 8)., a light seal to block light output from the light source from exiting the housing (See Figure 2; portals 26 and 27 with plastic collars 27 and 28; See col. 6, lines 46-54 - plastic collars 27 and 28 act to prevent substantial leakage of ultraviolet light outside working chamber 10), wherein the object forms part of the light seal (See col. 6, lines 46-49 - openings or portals 26 and 27 in the working chamber 10 allow insertion of hands and arms [or medical tools (See col. 3, lines 9-10)] into the chamber); and a light detector (photoelectric momentary switch 24) , triggered only by detection of completion of the light seal to a “certain degree,” to enable light to be output from the light source. See col.8, lines 27-32. Operation of the ultraviolet light 14 is initiated only when photoelectric momentary switch 24 indicates that there are objects such as hands or arms in

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the working chamber 10 [extended through portals 26 and 27 and plastic collars 27 and 28], e.g. the hands and arms [or medical tools 9col.3, lines 9-10]] – the objects to be sterilized).

As to claim 2, Matschke teaches the sterilizer/disinfector, wherein the light source emits ultraviolet light (See Figure 1., ultraviolet light source 14; See col. 5, line 59 to col. 6, line 8- industrial rated germicidal bulb with emission in the far ultraviolet wavelength, emits at 253.7 nm. This wavelength has been found to be particularly useful for destruction of pathogenic microorganisms. Intensity of the bulb is selected to produce desired level of ultraviolet radiation in chamber 10).

3. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Bourque (US 5,127,521) or Sakurai et al. (U.S. 4,772,795).

Bourque teaches a device for disinfecting an object wherein the device includes a housing 12, and two or more vanes 58,60 pivotally mounted to the housing. The vanes are constructed and arranged to interface to enclose the object during sterilization. See col.3, lines 25-40 and lines 62-68; Figures 1 and 2. An ultraviolet source 80 is disposed with the housing for disinfecting objects 70 enclosed therein.

Sakurai et al. discloses a UV sterilizer for dental instruments. The device includes a housing 1 and a plurality of vanes 9 pivotally mounted to the housing and which are constructed and arranged to interface to enclose a portion of dental instrument during sterilization. See col.3, lines 40-50; col.4, lines 35-48; Figure 2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-5, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matschke in view of Clark et al. (U.S. Patent No. 5,786,598).

Matschke teaches all that outlined in paragraph 2 above but fails to teach that the light source is a flash lamp, the light output is pulsed, and that the light output has a duration of less than 10 milliseconds. Clark et al. teaches a flashlamp system that generates high-intensity, short-duration pulses of polychromatic light in a broad spectrum, with wavelengths selected between 120 nm and 2600 nm, e.g. within the ultraviolet radiation spectrum - 260 nm, and deactivates microorganisms within a container by illuminating the container with the pulses of light having been generated (col. 4, lines 39-51). Clark et al. further teaches that the duration of the pulsed light output is in the range from 0.001 ms to 100 ms (col. 8, line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the flashlamp system of Clark et al. instead of the traditional lamp of Matschke since Clark et al. discloses that the flashlamp is capable of deactivating microorganisms to achieve a sterility assurance level of at least 10^{-6} , which would have been desirable when sterilizing the medical instruments of Matschke. See Clark et al., col.4, lines 49-51.

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6. Claims 11, 50, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt et al. (US 6,132,784) in view of Clark.

Brandt et al. teaches an apparatus for disinfecting objects including a UV lamp 17, and two vanes 36 pivotally attached to a support for blocking light emitted by the lamp. See Figure 6 and col.5, lines 33-44. The vanes are controlled by a shutter transceiver 40 which projects a beam of light 41 across the conveyer. When the shutter beam is free of produce, the vanes are closed. See col.5, lines 45-65. Brandt et al. is silent with respect to a housing and that the UV lamp is a flash lamp. Clark et al. discloses a flashlamp system that generates high-intensity, short-duration pulses of polychromatic light in a broad spectrum, with wavelengths selected between 120 nm and 2600 nm, e.g. within the ultraviolet radiation spectrum - 260 nm, and deactivates microorganisms within a container by illuminating the container with the pulses of light having been generated (col. 4, lines 39-51). It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the flashlamp system of Clark et al. instead of the traditional lamp of Brandt et al. since Clark et al. discloses that the flashlamp is capable of deactivating microorganisms to achieve a sterility assurance level of at least 10^{-6} . See Clark et al., col.4, lines 49-51. Furthermore, Clark et al. teaches a housing (tunnel) 18 for irradiating the objects to be sterilized. As an enclosure would have prevented further escape of radiation and recontamination of articles, it would have been obvious to enclose the apparatus of Brandt et al. within a housing or tunnel. Upon placing the device of Brandt et al. within a housing, the vanes would have necessarily pivoted in a plane parallel to at least one side of the housing.

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7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt et al. and Clark et al. as applied to claim 11 above, and further in view of Kawamura (U.S. 4,877,967).

The combination *supra* is silent with respect to a hinged door at the entry and exit point of the housing. Nevertheless, this element is evidenced by Kawamura in a UV inspection apparatus. Kawamura teaches providing a tunnel having a UV irradiation means with hinged doors 5,6 at the entrance and exit of the tunnel. See col.3, lines 22-40. As Kawamura discloses that the hinged doors prevent light from passing into or out of the chamber it would have been an obvious modification to the apparatus of Brandt et al. as a further safety feature.

8. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. in view of Harper (U.S. 5,794,410).

Sakurai et al. discloses a UV sterilizer for dental instruments. The device includes a housing 1 having an opening for at least partially receiving an object and a plurality of movable members 9 pivotally mounted to the housing for moving between an open and a closed position. UV lamps 5a,5b are located within the housing for irradiating an object placed therein while a detector 21 detects when the movable members are in the closed position and permits activation of the UV lamps only when the movable members are in the closed position. See col.3, lines 40-50; col.4, lines 35-48; Figure 2. The movable members do not close automatically. In the invention of Sakurai et al., the movable members are closed by lever 12a.

Harper, however, discloses that it was known in the art at the time of the invention to provide automatic control for opening and closing an iris closure 20 like that of Sakurai et al.. The iris closure of Harper automatically closes when an object is passed therethrough. See col.5, lines 32-37 and lines 61-66; col.7, lines 2-15 and lines 48-50. In order to avoid operator error, as

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well as to achieve complete automation of the sterilization cycle, it would have been obvious to provide an automatic closure for the iris 8 of Sakurai et al..

9. Claims 25 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. in view of Matschke.

Sakurai et al. discloses a UV sterilizer for dental instruments. The device includes a housing 1 having an opening for at least partially receiving an object and a plurality of movable members 9 pivotally mounted to the housing for moving between an open and a closed position, wherein the movable members are attached to the housing in both the open and the closed position. The movable members are constructed and arranged to be moved from the open position to the closed position as an object is placed within the housing when the lever 12a is actuated. UV lamps 5a,5b are located within the housing for irradiating an object placed therein while a detector 21 detects when the movable members are in the closed position and permits activation of the UV lamps only when the movable members are in the closed position. See col.3, lines 40-50; col.4, lines 35-48; Figure 2. Sakurai et al. does not disclose a detector for detecting the presence of an object within the housing.

Matschke discloses a UV sterilization device wherein operation of the ultraviolet light 14 is initiated when photoelectric momentary switch 24 indicates that there are objects placed at least partially within the opening to the working chamber 10. It would have been obvious to one of ordinary skill in the art to modify the apparatus of Sakurai et al. to include the detector and actuation means of Matschke as a means to prevent accidental actuation of the UV lamps when the iris 8 is closed but no object is within the housing.

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10. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. in view of Kienemund (abstract of DE 19613560).

Sakurai et al. discloses a UV sterilizer for dental instruments. The device includes a housing 1 having an interior and an exterior, ultraviolet light sources 5a,5b located within the housing, and a light seal 8 to block light output from the ultraviolet light sources from exiting the housing, wherein the dental instrument forms part of the seal. A detector 21 detects when the movable members are in the closed position and permits activation of the UV lamps only when the movable members are in the closed position. See col.3, lines 40-50; col.4, lines 35-48; Figure 2. Sakurai et al. fails to teach a light detector for detecting a level of external light that has entered the housing from the exterior wherein this detector permits actuation of the ultraviolet light sources.

Kienemund teaches a light sensor 3 for testing a light seal 4. An external light source 8 radiates light in the direction of a container 1 and a sensor 3 located within the container 1 determines the light-tightness of the seal 4. As the sensor of Kienemund provides an additional factor of safety for preventing unwanted exposure of radiation to the operator, it would have been obvious to provide the sensor of Kienemund in the sterilizer of Sakurai et al..

Response to Arguments

11. Applicant's arguments filed 03 March 2006 have been fully considered but they are not persuasive.

With respect to the rejection of claim 1 over Matschke, the arguments are not persuasive.

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Although Applicant argues that the claim has been amended to include a light detector which is triggered only when the light detector has detected completion of the light seal to a certain degree. However, as set forth in the rejection above, the photoelectric momentary switch of Matschke is a light sensor and it is triggered only when it has detected completion of the light seal to a certain degree, albeit indirectly.

12. Applicant's arguments with respect to claims 11, 12, 18, 23-27, and 48-51 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

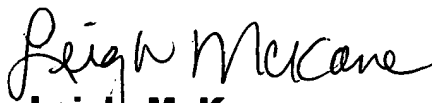
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Wednesday (5:30 am-3:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Leigh McKane
Primary Examiner
Art Unit 1744

elm
12 June 2006